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| AUTHOR | Streichler, Jerry |
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ABSTRACT

Multipurpose academic units are academic units that are headed or chaired by one individual who, along with his or her faculty, is responsible for more than one degree or for more than one program under a degree. One example of a multipurpose academic unit would be a department that combines teacher education and industrial technology programs and that would thus offer degrees in teacher education, engineering, and industrial technology. These types of multipurpose units are frequently faced with a variety of challenges in balancing the conflicting interests of the different curricula that they offer. These issues include resource allocation, accreditation, conflicting goals, and future directions. A study examined the attitudes of administrators of multipurpose academic units at 11 institutions located throughout the United States. In many situations, the degree requirements and programs to prepare individuals with advanced educational competencies are being accomplished under degree designations other than Master of Education. Most of the respondents, although they were leaders of multipurpose departments, had strong roots and loyalties to teacher education. In the multipurpose departments studied, industrial education appeared to be a lower priority than industrial technology and engineering technology, and the view was expressed that it will likely enjoy an even lower priority in such units in the future. (MN)

# Managing Industrial Teacher Education Programs in a Multi-Purpose Academic Unit - Selected Issues

By
Jerry Streichler, Dean
College of Technology
Bowling Green State University
Bowling Green, OH 43403



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The definition of multi-purpose unit that works for me is: any academic unit, preferably the academic department or its equivalent, which is headed or chaired by one individual and who, with his or her faculty, is responsible for more than one degree, or for more than one program under a degree. Units that only sponsor different types of industrial teacher education or other vocational programs like industrial arts and trade and industrial education, or units which sponsor only different specializations of industrial technology would do not qualify as multi-purpose under this definition. A department which combines both of the preceding specific examples of teacher education and industrial technology program would fit under the definition.

Most academic units (departments, schools, colleges) in the field are multi-purpose and have evolved from units that were originally "single" purpose for industrial teacher education. Currently, within these academic units, other types of technology programming exist in addition to teacher education. Usually the programs are engineering or industrial technology. Histories of the development and evolution of these programs and units reveal challenges which are rooted in the interaction of these different curricula in such areas as course and curriculum commonalities and differences, faculty development, faculty and program cooperation or competition; the nature of leadership of these programs; facility, equipment and resource utilization; selected aspects of accreditation; influence of institutional goals; appropriate and effective service to clientele; and the future directions of these programs. Only a select few of these are discussed in this presentation.

My interest in this topic stems from more than 30 years of service in higher education including involvement in studies of and curriculum development which led to the creation of a multipurpose unit in one instance and in the development and leadership over a 22 year period, of such a unit in another instance. The content of this presentation is based on two preliminary surveys. These surveys were undertaken to confirm or reject some personal notions about what was going on in the field and to form a basis for a decision to engage in more intensive inquiries of a wider population. These preliminary efforts have produced some provocative results, a selection of which are shared at this time covering:

The "average" leader of multi-purpose units

Undergraduate programs, students and faculty in these units

Issues related to graduate studies in these units

The future according to program leaders

Approximately one month ago Rokusek and Israel (1988) presented and published a report which supplements (and in some cases overlaps with) the content of this report. In the abstract of their presentation they describe the "typical" leader in industrial teacher education.

> The typical departmental administrator is a 50 year old white male who holds a twelve-month appointment. Eight full-time faculty members, four of whom are

> industrial teacher educators, are under his supervision. He administers four programs. The administrative unit and its industrial teacher education program are smaller than they were ten years ago. He is a department head, rather than a chairperson or coordinator, and has served as the person responsible for industrial teacher education at his institution for nine years. The faculty is not unionized. He teachers at least half-time. He feels that it is desirable to both teach and administer in his department and does not feel that nis teaching load is excessive. Today's typical department head teaches both undergraduate and graduate classes and has been appointed to serve as department head for an indefinite period of time (p.1).

Unlike the Rokusek/Israel report, which was limited to the central United States, programs that appeared to meet the multi-purpose definition and which are located in representative geographic areas of the country were surveyed for this report. Respondents are located in the east, south, Midwest, southwest and pacific coast. The eleven responding institutions represent 174 faculty, 4,892 undergraduate students including: 3,274 industrial technology majors, 1,314 engineering technology majors and 304 industrial teacher education majors.

(Table 1 goes here)

Table I shows the three major programs that are administered in these units and relates changing curriculum trends, enrollments and faculty deployments over a ten year period - 1976-1986. The major declines in the number of faculty and students associated with industrial teacher education and the dramatic increases in these categories for industrial technology and engineering technology must give pause particularly if this trend continues and can be demonstrated to be so nationwide.

In response to a question on how the faculty are categorized by program and in relation to their academic preparation, leaders of these academic units identified a significant number of non-doctoral level faculty with industrial technology.

(Table II goes here)

The information on Tables I and II confirms what most observers may sense that individuals who are designated as Teacher Educators by virtue of their preparation are serving the non-teacher preparation programs. On the other hand, it may also be inferred that "non-teacher education" types are teaching courses formerly taught by teacher educators.

Preliminary information about graduate education trends in multi-purpose academic units was gathered in a second survey. Twenty-seven such units were contacted to determine the status of their graduate programs in industrial education and in industrial technology. Here, a different form of provocation and challenge to the profession emerges. For good of for ill, the responses from the vast majority suggest the following:

In many situations the degree requirements and program to prepare individuals with advanced educational competencies are being accomplished under degree designations such as Master of Science in Technology or Industrial Technology. The Master of Education as a degree designation appears not to be in wide use in these multi-purpose departments.

Degree programs more and more call out technical specializations such as Construction, Electronics, Manufacturing, Graphics/Printing, Design and serve both those who are studying to advance in educational and industrial technical management roles.

In a number of instances there is evidence that degrees which officially have authorization only to serve educational personnel have been steadily modified beyond that authorization and without university or state controlling or coordinating board authority to serve technical management personnel in industry.

In the programs which have so expanded, the degrees held by faculty on the senior faculty levels are Ph.D. in Education or the Ed.D. On the other hand, graduate faculty on the lower ranks, in increasing proportions, are holders of terminal degrees in engineering or related science or technology fields.

(Table III goes here)

Most of the respondents, although they were leaders of multi-purpose departments, had strong roots and loyalties to teacher education. This is revealed in responses to several questions about the affects upon programs, faculty and students of the introduction of new non-teacher education programs. To a large degree the respondents took a dim view of the prospects for industrial education within the multi-purpose department, as they shared their priorities for their programs. They also estimated the priorities that faculty and university administration would assign to programs in 1986, and they projected how their successor, the faculty and the university administration would assign priorities in 1996. Table III displays the priorities assigned by the

respondents. Engineering technology is judged to be the high priority program of university administrations, followed by industrial technology Industrial education takes up the rear, by far, for 1986 and 1996. Respondents see faculty with only a slightly different view from university administration. For faculty industrial technology holds a higher priority than engineering technology in 1986, and then give them an equal in 1996. Unfortunately, for faculty too industrial education runs far behind in both periods. Even the respondents, in spite of their apparent loyalty, place teacher education in third priority in 1986, although a bit more respectfully then the others. The respondents see their successors in coming more in line with the priorities of the faculty and the university administration in 1996. Thus, they predict that in in the future in multi-purpose departments, industrial education will enjoy an even more secondary or tertiary position than today. It is difficult and dangerous to draw any firm conclusions other than some generalizations and cautions from this information. But it is fair to ask:

Are those who claim to be industrial education faculty now better able to devote energies to pedagogy, curriculum, matters of learning and the learner while the technical content that the teacher to be must learn is being taught by subject matter experts as is the case for teacher preparation programs in subject areas like history, physics, and English?

Is this evidence of wrenching/lurching forward - Progress toward the definition of <u>the</u> technical disciplines to parallel teacher education in other subject fields?

Will industrial teacher educators return to Colleges of Education?

Will university administrations and state controlling boards review graduate programs in industrial education to insure that degree authority as originally vested has not be violated or circumscribed or compromised?

In what ways will the declines in enrollments and numbers of faculty in industrial education that have been reported for the past 10 years take their toll on the future of the profession?

What has all this to say about advancement of the profession and achievement of standards of excellence?

References

Rokusek, H. J. and Israel, E. N., (1988), Twenty five years of Change 1963-1988) and its effect on industrial teacher education administration", Industrial Teacher Education in Transition, Mississippi Valley Industrial Teacher Education Conference.

_____, Abstract of paper presented at the Mississippi Valley Industrial Teacher Education Conference, St. Louis, MO, November 11, 1988.

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TABLE I

## NUMBER OF UNDERGRADUATE STUDENTS AND FACULTY ASSOCIATED* WITH PROGRAMS 1976 - 1986

| PROGRAM | 1976 | 1981 | % INCREASE (DECREASE) 1976-1981 | 1986 | % INCREASE (DECREASE) 1981-1986 | % INCREASE (DECREASE) 1976-1986 |
|---|---|---|---|---|---|---|
| **INDUSTRIAL TECHNOLOGY** | | | | | | |
| FACULTY | 77 | 87 | 13 | 143 | 64 | 85 |
| STUDENTS | 1697 | 2222 | 31 | 3274 | 47 | 90 |
| **ENGINEERING TECHNOLOGY** | | | | | | |
| FACULTY | 23 | 34 | 47 | 56 | 64 | 144 |
| STUDENTS | 700 | 1200 | 71 | 1314 | 9 | 88 |
| **INDUSTRIAL TEACHER EDUCATION** | | | | | | |
| FACULTY | 67 | 63 | (6) | 40 | (36) | (40) |
| STUDENTS | 1070 | 720 | (32) | 304 | (57) | (72) |

*TOTALS FOR FACULTY EXCEED ACTUAL NUMBER UNDER CONTRACT BECAUSE FACULTY ASSUME MULTIPLE RESPONSIBILITIES. FOR EXAMPLE, FOR 1986 91 FACULTY ARE REPORTED AS INDUSTRIAL TECHNOLOGISTS, 27 AS ENGINEERING TECHNOLOGISTS AND 56 AS TEACHER EDUCATORS, YIELDING A TOTAL OF 174 FACULTY.

TABLE II

## CURRENT FACULTY PROFILES

| | |
|---|---|
| 91 | **INDUSTRIAL TECHNOLOGISTS.** INDIVIDUALS WITH MASTERS DEGREES IN INDUSTRIAL EDUCATION OR ENGINEERING AND INDUSTRIAL EXPERIENCE |
| 27 | ENGINEERS. INDIVIDUALS WITH A LEAST A MASTERS DEGREE IN ENGINEERING |
| 56 | **TEACHER EDUCATORS.** INDIVIDUALS WITH A MASTERS DEGREE OR DOCTORATE IN INDUSTRIAL EDUCATION |

TABLE III

## RESPONDENT'S OPINIONS ABOUT PRIORITIES HELD FOR PROGRAMS IN 1986 AND FOR 1996

(RANKS: 1 = HIGHEST, 4 = LOWEST)

| RESPONDENT (FOR 1996 - READ "SUCCESSOR") | | 1986 | | 1996 | |
|---|---|---|---|---|---|
| | | NUMBER RESPONDING | MEAN PRIORITY RANK | NUMBER RESPONDING | MEAN PRIORITY RANK |
| | I.T. | 10 | 1.2 | 10 | 1.5 |
| | E.T. | 5 | 1.8 | 5 | 1.2 |
| | I.T.E. | 9 | 1.9 | 8 | 2.4 |
| FACULTY | I.T. | 10 | 1.2 | 10 | 1.4 |
| | E.T. | 5 | 1.4 | 5 | 1.4 |
| | I.T.E. | 8 | 2.25 | 8 | 2.4 |
| UNIVERSITY ADMINISTRATION | I.T. | 11 | 1.7 | 10 | 1.6 |
| | E.T. | 5 | 1.2 | 5 | 1.2 |
| | I.T.E. | 10 | 2.3 | 8 | 2.1 |